

Rycom™



Non-contact Infrared Thermometer
Model:RC008

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I. SAFETY PRECAUTIONS

- Follow the maintenance advice stipulated in this instruction manual.
- This device may be used for professional purposes or for personal home use.
- This device must only be used for the purposes described in this instruction manual.
- This device must only be used in an ambient temperature range of between 10°C and 40 °C.
- This device must always be kept in a clean, dry area.
- Do not expose this thermometer to electric shocks.
- Do not expose this thermometer to extreme temperature conditions of >50°C or <- 20°C.
- Do not use this device in relative humidity higher than 85%.
- The protective glass over the lens is the most fragile part of the thermometer.
- Do not touch the glass of the infrared lens with your fingers.
- Clean the glass with a cotton bud lightly moistened with 95° alcohol.
- Do not expose the thermometer to sunlight or to water.
- Never drop the device.
- Should a problem occur with your device, please contact your retailer. Do not attempt to repair this device yourself.

THE MANUFACTURER RESERVES THE RIGHT TO ALTER THE SPECIFICATIONS
OF THE PRODUCT WITHOUT PRIOR NOTIFICATION

II. INTRODUCTION

The Rycom RC008 Non-contact Infrared thermometer has been developed **by** using **the** latest infrared technology. This technology allows temporal artery (TA) temperature to be taken at a distance of about 3~5cm away from the forehead. Precise, Instantaneous and without Contact, the RC008 is , **up to now**, the most suitable thermometer for no risk **on** temperature measurement. It has been demonstrated that this method of TA temperature measurement is more precise than **the** tympanic thermometry and better tolerated than rectal thermometry (1).

However, as with other types of thermometer, it is essential to use the Rycom RC008 properly in order to obtain reliable and stable results. You are therefore advised to read this instruction manual and the safety precautions carefully before use.

(1)Greenes D, Fleisher G. Accuracy of a Noninvasive Temporal Artery Thermometer for Use in Infants. *Arch Pediatr Adolesc Med* 2001;155:376.

III. PRECAUTIONS BEFORE USE

The Rycom RC008 is pre-set at the factory.
It is not necessary to calibrate the device when starting it up.

In order to obtain reliable and stable results, you are advised each time there is a significant change in the ambient temperature due to a change in environment, to allow the Rycom RC008 to acclimatize to this ambient temperature for 15 to 20 minutes before using it.

It is important to a one time interval between two measurements.

IV. OPERATING PRINCIPLE

All objects, solid, liquid or gas, emit energy by radiation. The intensity of this energy depends on the temperature of the object. The **RC008** infrared thermometer is therefore able to measure the temperature of a person by the energy the person emits. This measurement can be taken thanks to an external temperature probe on the device which permanently analyses and registers the ambient temperature. Therefore, as soon as the operator holds the thermometer near the body and activates the radiation sensor, the measurement is taken instantly by detection of the infrared heat generated by the arterial blood flow. Body heat can therefore be measured without any interference from the heat of the surrounding environment.

THE DIFFERENT METHODS OF TEMPERATURE MEASUREMENT

Core temperature

Core temperature is the most precise measurement and involves measuring the temperature in the pulmonary artery by means of a catheter equipped with a thermal probe which can read the temperature *in situ*. The same method is employed for probes measuring the oesophageal temperature. However, such invasive temperature measurement methods require specific equipment and expertise.

Rectal thermometry

Rectal temperature adjusts slowly in comparison to the evolution of the body's internal temperature. It has been demonstrated that rectal temperature remains raised long after the internal temperature of the patient has started to drop and vice versa. Furthermore, rectal perforations have been known to occur as a result of this method and without appropriate sterilisation techniques, rectal thermometry can spread germs often found in faeces.

Oral thermometry

Oral temperature is easily influenced by recent ingestion of food or drinks and by breathing through the mouth. To measure oral temperature, the mouth must remain closed and the tongue lowered for three to four minutes which is a difficult task for young children to accomplish.

Axillary (armpit) temperature

Although it may be easy to measure axillary temperature, it has been proven that it does not provide an accurate measurement of the child's internal temperature. To take this type of temperature, the thermometer must be wedged tightly over the axillary artery. Despite the low sensitivity and relative inaccuracy of axillary temperature in detecting fever, this method is recommended by The American Academy of Pediatrics as a screening test for fever in newborns.

Tympanic thermometry

In order to obtain a precise temperature reading, good command of the measurement technique is required. The thermometer probe must be placed as close as possible to the warmest part of the external ear canal. An incorrectly placed probe could lead to a false temperature reading.

NORMAL TEMPERATURES ACCORDING TO MEASUREMENT METHOD

MEASUREMENT METHOD	NORMAL TEMP°
RECTAL	36.6°C – 38°C
ORAL	35.5°C – 37.5°C
AXILLARY	34.7°C – 37.3°C
AURICULAR	35.8°C – 38°C
TEMPORAL (RC008)	35.8°C – 37.8°C

The temperature of the human body varies throughout the day. It can also be influenced by numerous external factors: age, sex, type and thickness of skin...

ADVANTAGES OF TEMPORAL ARTERY (TA) TEMPERATURE

Infrared arterial temperature can be measured using a device placed on the forehead, in the temporal artery region. It has been demonstrated that this relatively new method of measuring temperature is more precise than tympanic thermometry and better tolerated than rectal thermometry.

The RC008 thermometer has been designed to produce an instant forehead temperature reading without any contact with the temporal artery. As this artery is quite close to the surface of this skin and therefore accessible and given the blood flow is permanent and regular, it allows precise measurement of the temperature. This artery is linked to the heart by the carotid artery which is directly linked to the aorta. It forms part of the main trunk of the arterial system. The efficiency, speed and comfort of taking a temperature from this area make it ideal compared with other temperature measurements methods.

NORMAL TEMPERATURES ACCORDING TO AGE

Age	°C	°F
0-2 years	36.4-38.0	97.5-100.4
3-10 years	36.1-37.8	97.0-100.0
11-65 years	35.9-37.6	96.6-99.7
> 65 years	35.8-37.5	96.4-99.5

PRACTICAL CONSIDERATIONS WHEN TAKING A TEMPERATURE

- In order to ensure that precise and accurate temperature measurements are obtained, it is essential that each user has received adequate information on and training in the temperature measurement technique when using such a device.
- It is essential to remember that although procedures such as taking a temperature may be simple they must not be trivialised.
- Temperature should be taken in a neutral context. The patient must not have undertaken vigorous physical activity prior to taking

his/her temperature and the room temperature must be moderate.

- Be aware of physiological variations in temperature which must be taken into consideration when evaluating the results: temperature increases by 0.5°C between 6am and 3pm. Women have a temperature that is higher, on average, by around 0.2°C . Their temperature also varies in accordance with their ovarian cycle. It rises by 0.5°C in the second half of the cycle and at the early stages of pregnancy.
- When sitting, temperature is lower by about 0.3 to 0.4°C than when standing.

HOW TO TAKE A TEMPERATURE

Aim at the FOREHEAD, over the right temporal region, from a distance of about 3~5cm, press the thermometer's measurement button and the temperature is instantly displayed.



The reliability of the measurement cannot be guaranteed if the temperature is measured over another part of the body (e.g. arm, torso...)



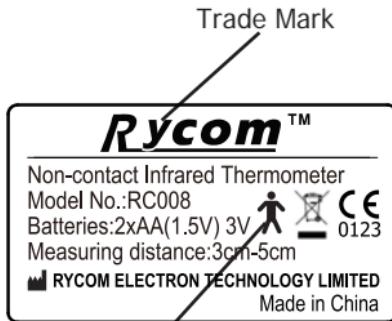
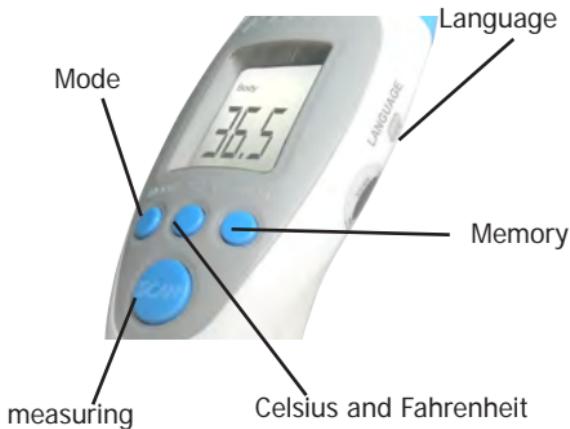
CONSTRAINTS

Please observe the following before any temperature measurement to ensure a stable and reliable result:

- Push back hair from the forehead
- Wipe away any perspiration from the forehead
- Avoid any drafts (e.g. from nasal specs, air conditioning...)
- Allow a 1 minute interval between two measurements.
- Each time there is a significant change in the ambient temperature due to a change in environment, to allow the RC008 to acclimatise to this ambient temperature for at least 15 minutes before using it.

V. DESCRIPTION OF THE RC008





IEC60417-5840,
TYPE B APPLIED PART

VI. FUNCTIONS

1. **Special design** to take the body temperature of a person regardless of the room temperature.
2. Quick and reliable results as it uses the advantage infrared detection system.
3. **Audible alarm** if temperature is exceeded.
4. Memorize 32 measures.
5. Backlit-lighted LCD digital screen.
6. Data **can be** displayed in either Celsius or Fahrenheit.
7. Auto **power-off** 5 seconds (energy saver).
8. **Practical**, easy to use.

ADDITIONAL USAGE:

Rycom RC008 can also be used to measure the temperature of a baby-bottle or bath, or room temperature (by using the Surface Temp function). This function is in accordance with the Directive 89/336/EEC Electromagnetic Compatibility.

VII. USAGE

1. Install battery
2. For the first use or when inserting new batteries wait between 10 minutes for the warm-up of the apparatus and when inserting the new batteries.
3. Aim towards the forehead (see the diagram below for the RC008 positioning), from a distance of 3cm~5cm, press the measuring key, the temperature is displayed in 1 second.
4. Before taking the temperature, make sure to remove hair and perspiration from the forehead.



VIII. SETTING AND FUNCTION OF MENU



CONFIGURATION AND FUNCTION OF MENU

1. Setting the mode

- Press Mode button, and the screen will display: Body... °C
- Press again and the screen will display: Surface Temp... °C
- Press again and the screen will display: Room... °C

Note: The thermometer default is set to BODY mode

- Press the °C/ °F button to transfer between Celsius and Fahrenheit
- Press Mem (Memory) button, which will then display the last temperature, and allows for a view of the last 32 measurements taken.
- Press the Language button to display a choice of three languages, as well as an "off" setting, which will silence the talking feature of the unit.

Important!

The surface body temperature differs from the internal body temperature. To obtain the internal temperature, always use the "BODY" mode. Please make sure to select "SURFACE TEMP" mode for an external area reading.

5. Recalibration of device via the F4 MENU

The RC008 factory-set. Depending on various skin types and thickness, there may be temperature differences.

The F4 function will recalibrate and if you see a difference in the reading, you must recalibrate the unit.

Instructions for recalibration:

Press the Mode and °C/ °F buttons at the same time for 3 seconds.

The screen will then display : "F4"

Press Mode to increase 0.1°C, press °C/ °F to reduce 0.1°C.

Press MEM button to save the setting.

In the cases of seasonal or environmental changes a verification and adjustment should be carried out.

6. CHANGING THE BATTERIES

Display: when the LCD screen displays 'Battery', the battery is used.

Operation: Open the lid and change the batteries, taking great care with the correct positioning. A mistake with this could cause damage to the apparatus and compromise the guarantee of your RC008.

Never use rechargeable batteries. Use only batteries for single usage.

IX. TECHNICAL CHARACTERISTICS

1. Normal conditions of use

Operating temperature: 10° C ~ 40° C (50° F ~ 104° F)

Humidity rate: ≤ 85%

2. Power: DC3 V (2 batteries AA)

3. Unit size: 175 x 50 x 52 mm (L x W x H)

4. Unit weight (with battery): 148g

5. Display Resolution: 0.1° C (0.1°F)

6. Measuring range:

In body mode: 32°C ~ 42.9°C (89.6°F ~ 109.2°F)

In Surface Temp mode: 0°C ~ 60°C (32°F to 140°F)

7. Precision: From 36°C to 39°C (96.8°F to 102.2°F) = ±0.2°C (±0.4°F)

8. Consumption: ≤ 300mW

9. Accuracy: ± 0.3° C (0.6° F)

10. Measuring distance: 3 cm ~ 5 cm (1.2 in ~ 2 in)

11. **Auto power-off:** 5 sec.

RC008 PRECISION

From 34°C to 35.9°C = ± 0.3°C	According to ASTM Standard E1965-1998 (2009)
From 93.2°F to 96.6°F = ± 0.6°F	
From 36°C to 39°C = ± 0.2°C	
From 96.8°F to 102.2°F = ± 0.4°F	
From 39°C to 42.5°C = ± 0.3°C	
From 102.2°F to 108.5°F = ± 0.6°F	

The RC008 can take temperature readings below 32°C or above 42.9°C (89.6°F to 109.2°F) but precision is not guaranteed outside of this range.

LONGEVITY USE

The RC008 was conceived for an intense and professional use, its longevity is guaranteed for 40,000 takings.

X. ADVICE

- The protective glass over the lens is the most important and fragile part of the thermometer, please take great care of it.
- Clean the glass with cotton fabric, wet with 95° alcohol
- Do not use other batteries than mentioned batteries, do not recharge non rechargeable batteries, do not throw in fire.
- Remove the batteries when thermometer is not used for an extended period of time.
- Do not expose the thermometer to sunlight or water.
- An impact will damage the product.

XI. ACCESSORIES SUPPLIED

User Manual in English

Protective storage bag

2pcs batteries supplied (AA)

XII. TROUBLESHOOTING

If you have problems while using your thermometer, please refer to this guide to help resolve the problem. If the problem persists, please contact our customer service.

THE SCREEN DISPLAYS TEMPERATURE HIGHER THAN 42.9°C(109.2°F):

The temperature is in Fahrenheit. Change the measurement to Celsius by pressing the Celsius/Fahrenheit button

THE SCREEN DISPLAYS TEMPERATURE LOWER THAN 32°C (89.6°F):

To take the surface temperature, press the "Mode" button and set to the reading called "Body", If the device is in Surface Temp Mode, the 32°C (89.6°F) temperature displayed is showing the external temperature of your body, rather than the internal.

THE SCREEN DISPLAYS THE MESSAGE HI



When using the Rycom RC008 Thermometer, the message "HI" can show on the screen. In this case, the temperature is above the measurement range selected, either above 42.9 °C (109.2°F) in Body Mode.

THE SCREEN DISPLAYS THE MESSAGE LO



When using the Rycom RC008 Thermometer, the message "LO" can show on the screen. In this case, the temperature analyzed is under the measuring range selected, either less than 32°C (89.6°F) in Body Mode.

This message displays for various reasons. Please find below a list of the main issues:

Reasons for LO message display	Advice
Temperature reading hampered by hair or perspiration.	Make sure there is no obstruction or dampness prior to taking temperature.
Temperature hampered by an air draft or dramatic change in ambient temperature.	Make sure there is no air blowing in the area of use; this could affect the infrared reading.
Temperature readings are too close together, and the thermometer did not have time to reboot.	Pause for 15 seconds minimum between readings; a one-minute pause is recommended.
The measuring distance is too far.	Take measurements at the recommended distance (between 3 and 5cm; 1.2" and 2 ")



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